Appendix F. Lompoc Interagency Work Group Minutes From March 1999 Meeting and Lompoc Pesticide Air Monitoring Options for 1999 From Technical Advisory Group

MEMORANDUM

12 April 1999

TO: Lompoc Interagency Work Group Members (See Attached Distribution List)

SUBJECT: MEETING SUMMARY – MARCH 19, 1999

Members present: Advocates for a Clean Environment - Lauren Sullivan; Air Resources Board - Lynn Baker; Assembly Member Maldonado's Office - Julia King; Celite Corporation - Chris Pauley; Department of Health Services - Christine Arnesen, Martha Harnly, Rick Kreutzer; Department of Pesticide Regulation - Madeline Brattesani, Paul Gosselin, Cheryl Langley, Steven Monk, Doug Okumura, John Ross, Jay Schreider, Randy Segawa; Lompoc Growers - Richard Quandt; Lompoc City Council - Dick DeWees; Lompoc Residents - Joyce Howerton, Dave Pierce; Office of Environmental Health Hazard Assessment - Richard Ames, Michael DiBartolomeis, Anna Fan, Joy Wisniewski; Santa Barbara County Agricultural Commissioner's Office - Joe Karl; Santa Barbara County Air Pollution Control District - Duane Sikorski; Santa Barbara County Health Services - Elliot Schulman; Santa Barbara County Supervisor Gray's Office - Susan Warnstrom; Santa Barbara County Supervisor Marshall's Office - John Buttny; Senator O'Connell's Office - Carla Frisk, Traci Verardo; U.S. Environmental Protection Agency (EPA), Headquarters - Jake Mackenzie (Facilitator, Lompoc Interagency Work Group); U.S. EPA, Region IX - Ray Chavira, Karen Heisler; Volunteer - Robert Holtzer; Volunteers for a Healthy Valley - George Rauh.

Members absent: Department of Health Services - Sharon Seidel; UC Extension Agricultural Engineer - Bill Steinke.

Topic #1: Introductions The Lompoc Interagency Work Group (LIWG) members and others present introduced themselves.

Topic #2: Approve meeting summary The LIWG approved the summaries of the January 22, 1999 meetings with no changes.

Topic #3: Review agenda The LIWG reviewed the agenda and decided to change the order of several items, and added several items. Dick DeWees proposed that Stacy Lawson (Environmental Coordinator, City of Lompoc) be added as a member to the LIWG. The LIWG accepted this proposal.

Topic #4: Report from the funding subgroup

- *Main Points:* The subgroup distributed their proposed funding strategy (Handout #1), described the Legislature's budget time line, and presented various funding strategies. The subgroup asked the LIWG to make recommendations on the funding strategies presented. The funding subgroup recommended that the LIWG request that the legislative delegation representing Lompoc submit members' requests to the appropriate

budget subcommittees in the Legislature. The funding subgroup suggested that the funding request presented to the legislators representing Lompoc reflect a comprehensive package of unfunded projects that examine a variety of risk factors that may contribute to health problems in Lompoc.

The U.S. EPA announced that they had finalized the cooperative agreement with DPR and would transfer $100,000 to DPR for pesticide air monitoring activities (Handout #2).

- *Discussion/Decisions:* The LIWG discussed this strategy and made recommendations about funding needs for pesticide air monitoring, health issues activities, and other environmental exposure monitoring activities. See specific key issues for LIWG recommendations.

- *Next steps:* At the next LIWG meeting, the funding subgroup will provide an update on the status of funding.

Topic #5: Report on the status of the recommendations on Key Issue #2 [Key Issue #2: Are Lompoc residents exposed to pesticides in air? If so, which pesticides, and in what amounts? Do those levels exceed human health standards?]

- *Main Points:* The LIWG reviewed the Lompoc pesticide air monitoring options for 1999 (Handout #1).
- *Discussion/Decisions:* George Rauh and Lauren Sullivan argued for one of the options put forward at the meeting: using the federal grant money to monitor for the same 12 pesticides studied last year during a six-week period this spring. Based on strategic and technical considerations, the LIWG recommended option 2: U.S. EPA funds, along with the hoped-for state funds, will be allocated to Phase Two monitoring as it takes technical form through the current work of the technical advisory group. On behalf of the growers, Richard Quandt made the following minority opinion statement: Based on the results of phase one/pesticide air monitoring results, he does not think that more pesticide air monitoring is justified at this time.

  Richard Ames requested that home use termite control be part of the air monitoring project.

- *Next Steps:* As soon as possible, the legislative delegation that represents Lompoc will prepare the members' requests to the Legislature, a comprehensive package that includes (1) phase two/pesticide air monitoring at about $390,800 (option 2); (2) additional geocoding, geographical information systems work, and biostatistical analysis at $25,000 for Phase One from the Health Issues subgroup's recommendations; and from the other environmental exposures subgroup, funding for (3) a pollen and fungal spore survey at $21,000; and (4) a one-year in-depth study of air patterns and meteorology in the Lompoc area (option A) at $50,000. The fumigants monitoring cost is $98,000. The total cost is $585,000; minus $100,000 from the U.S. EPA cooperative agreement, the total legislative

request is $484,800.

Topic #6: Report on the status of the recommendations on Key Issue #1 [Does sickness occur in the community? If so, what kind(s) and at what rate(s)? Are illness rates higher than expected?]

- *Main Points:* Rick Kreutzer described the project and its proposed budget (Handout #1) and asked the LIWG to recommend that a portion of its phase one activities be funded ($25,000) through a members' request. Elliot Schulman updated the LIWG on the status of the health activities (see Handouts #3 and #4). Prior to this meeting, George Rauh had asked Elliot Schulman to investigate a possible surge in childhood cancer and other serious illnesses, and that known cases of bone cancer and aplastic anemia already suggest this trend. In response, Elliot Schulman provided a handout of a "New Yorker" article (Handout #5) that provides a point of view about cancer clusters.

- *Discussion/Decisions:* The LIWG recommended that the Phase One/Health activities be funded at $25,000 through the comprehensive members' request to the Legislature. George Rauh criticized committing LIWG resources (proposed $25,000) to the geocoding of widely disparate data, a project fraught with innumerable confounding factors. George urged the LIWG to propose a like amount for a symptom survey (in Lompoc and a comparison community) such as Richard Ames proposed five years ago. The LIWG also requested that the need for this survey be considered during the evaluation process at the end of Phase One.

  George Rauh requested that the LIWG consider information that suggests recently climbing childhood cancer rates and other life-threatening illnesses, such as aplastic anemia and consider the question: Is there a recent surge in such diseases?

- *Next Steps:* See under previous topic.

Topic #7: Report on the status of the recommendations on Key Issue #3 [What other environmental hazards and factors exist in Lompoc?]

- *Main Points:* Ray Chavira described the projects and proposed budgets (Handout #1). Lynn Baker noted that the ARB may need to request an additional $2,000 for its silica monitoring. If that were the case, then ARB would forward a project description and proposed budget to the legislative delegation.

- *Discussion/Decisions:* The LIWG recommended funding the one- year meteorology study (option A @ $50,000) and the pollen and fungal spore survey ($21,000) through the comprehensive members' requests to the Legislature. If only partial funds were obtained, then the LIWG would recommend reducing the funding for meteorology to $15,000 that would be used to supplement the meteorological measurements that are part of pesticide air monitoring.

The LIWG recommended that the funds (from the members' requests) for all the projects be appropriated to DPR. DPR would implement the pesticide air monitoring activities, and would develop interagency agreements with the appropriate lead agencies to implement the other projects (e.g., DHS for Phase One/health issues, ARB for the meteorology study, and DHS or ARB for the pollen and fungal spore survey). The LIWG understands that both ARB and DHS LIWG members will communicate with their organizations about the potential for being tapped to participate in this effort, and will get back to DPR (before the next LIWG meeting) to confirm their agency's willingness to be involved.

- *Next Steps:* See under Topic #5.

Topic #8: Phase One/Pesticide Air Monitoring Results

- *Main Points:* A packet of letters to California Environmental Protection Agency or to Department of Pesticide Regulation regarding Phase One results, funding for Phase Two, or both were distributed (Handout #6). A critique of DPR's Phase One Lompoc pesticide air monitoring, prepared by Pesticide Action Network and Volunteers for a Healthy Valley, was distributed (Handout #7). News articles were distributed that discussed air monitoring results (Handout #8). The ARB quality assurance evaluation of Lompoc Phase One/pesticide air monitoring was distributed (Handout #9). DPR distributed the most recent pesticide use report data for 1998 (Handout #10).

- *Discussion/Decisions:* George Rauh requested that the LIWG discuss the following issue: concern that DPR's Phase One/pesticide air monitoring summary of preliminary, draft data is erroneous and misleading. Time did not permit discussion of this issue or any aspect of Phase One/pesticide air monitoring results. The LIWG agreed to include these topics on the agenda for the next meeting. John Buttny asked that DPR include a detailed response to the letter written by Dr. Susan Kegley and Joan Clayburgh as part of the discussion of this item.

Topic #9: Next meeting date, time, location, and agenda: The LIWG plans to meet next on Thursday, April 22, in Oakland from 11:30 a.m. to 2:30 p.m. Details to follow about specific meeting location. LIWG members subsequently requested changing the meeting location to Lompoc. The next LIWG meeting will be on April 22 from 11:30 a.m. to 2:30 p.m. in Lompoc at the Alan Hancock College, Lompoc Center, on 1 Hancock Drive in the Community Meeting Room on the second floor of the Administration Building. Conference call capability will exist; please contact me if you want information about how to participate by conference call.

Please contact me, or Jake Mackenzie at (707) 584-1195, if you have questions about this meeting summary.

Respectfully submitted,

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Attachments

cc: Paul Gosselin, DPR
Doug Okumura, DPR

To: Lompoc Interagency Work Group
From: Technical Advisory Group
Date: 3/17/99

Subject: Lompoc Pesticide Air Monitoring Options for 1999

INTRODUCTION

The California Department of Pesticide Regulation (DPR) formed the Lompoc Interagency Work Group (LIWG) to help investigate the City of Lompoc's concerns about pesticide use and community health. The LIWG is composed of scientific staff from federal, state, and county agencies, as well as community representatives. The LIWG formed several subgroups to develop recommendations for a pesticide air monitoring strategy, as well as address potential exposure from other environmental agents. The exposure subgroup developed a work plan that recommended comprehensive air monitoring near agricultural areas during the growing season to determine if applied pesticides migrate by air to adjacent residential areas. The exposure subgroup prioritized 46 pesticides based on toxicity, use, and volatility. The exposure subgroup recommended monitoring for the top half of this list in a two-stage program with the first stage of monitoring to occur during the summer of 1998, and the second stage to occur during the summer of 1999. The monitoring recommendation was designed to measure maximum daily pesticide concentrations in air that could be compared to human health endpoints. The LIWG accepted the exposure subgroup's recommendations and forwarded them to DPR in April 1998.

The first phase of monitoring was completed in September, 1998. Due to budgetary constraints, DPR is unable to implement phase two as recommended by the LIWG. This document describes options for additional monitoring.

OPTIONS

A graphical representation of the different options is shown in the attached figure. The first two options include different amounts of monitoring. The third option includes no monitoring and is the fall back position if no additional funding is

obtained. Option 3 will also be implemented in the event another option is initiated, but terminated prematurely due to loss of funding or other unforseen circumstance. If adequate funding is secured, each option should provide enough information to achieve the objectives described above. The options differ primarily by the type and amount of information obtained with partial funding.

1. Extend Phase One- Several chemicals were detected during phase one. While some chemicals were monitored during the peak use season, others were not. Continued monitoring of these chemicals in 1999 will document concentrations during peak use season for other chemicals, and combined with results from phase one in 1998 will give a better estimate of seasonal and chronic exposure to these chemicals. If additional funding is secured, the phase one monitoring would be followed by phase two monitoring in 2000, similar to the original plan of the exposure subcommittee. The current study design for extending phase one assumes that three or four sites are monitored for six weeks, with three or four days monitored each week (the laboratory at the University of California, Davis is available for only six weeks in 1999).

Phase two monitoring is similar to the original plan of the exposure subcommittee. The technical advisory group will revise the target list of chemicals, based on more recent pesticide use data. The current study design for phase two assumes that three sites are monitored for 12 weeks, with three days monitored each week.

2. Monitor Fumigants or Phase Two - DPR would prepare for two studies: monitoring fumigants and phase two (also including fumigants). If additional funding is secured, DPR would initiate fumigant monitoring in 1999 and phase two monitoring in 2000. If no additional funding is secured, DPR would initiate only the fumigant monitoring.

The technical advisory group recommends that fumigant monitoring be given the top priority. Historically, three different fumigants have been used in the Lompoc area: methyl bromide, metam-sodium, and 1,3-dichloropropene. As fumigants, these chemicals are more volatile and applied at higher rates in comparison to other pesticides. Phase one monitoring included sampling for a single metam-sodium application in September, 1998. Concentrations of methyl isothiocyanate, a

breakdown product of the pesticide metam-sodium were the highest concentrations detected in phase one, and this chemical had one of the highest hazard indices. Pesticide use report data shows that other months have higher use of metam-sodium. Other fumigants have been used minimally, only seven applications of methyl bromide and one application of 1,3-dichloropropene over the last three years. However, the county agricultural commissioner may curtail use of metam-sodium, and use of the other fumigants may increase. If additional funding is secured, the fumigant monitoring would be followed by phase two monitoring similar to the original plan of the exposure subcommittee. The current study design for fumigants assumes that four sites are monitored for two to five applications, with three days monitored for each application.

The phase two monitoring is the same as described under option 1.

3. Estimate Concentrations Mathematically - This is the fall back position if we are unable to secure any additional funding. DPR will estimate peak air concentrations based on the data from phase one, and other air monitoring data. Concentrations will be estimated using computer modeling and/or statistical analysis of available data. In all likelihood, DPR will conduct this work even if another option is chosen, with whatever data is available.

RESPONSIBILITIES

As the lead agency, DPR and its contractors have primary responsibility for the study. DPR's Environmental Monitoring and Pest Management Branch and its contractor(s) have primary responsibility for study preparation, data collection, and report preparation. DPR's Medical Toxicology, and Worker Health and Safety Branches have primary responsibility for health evaluation of the monitoring data. The Santa Barbara County Department of Agriculture has primary responsibility for compiling pesticide use reports. The Santa Barbara County Air Pollution Control District has primary responsibility for compiling meteorological data. LIWG's Technical Advisory Group has primary responsibility for the planning and review of the monitoring study. DPR will establish an interagency quality assurance team to audit selected portions of the study. Since U.S. Environmental Protection Agency funds part of this study, they will need to review and approve

key steps in the study, as indicated below.

MONITORING PROCESS

Each of the monitoring options described above and shown in the attached figure have common elements: a study preparation component, a method development component, a data collection component, and a report preparation component.

The study preparation component normally takes two to six months to complete and includes the following:

- writing draft data quality objectives (DPR)
- reviewing draft data quality objectives (TAG)
- writing final data quality objectives (USEPA approval)
- selecting candidate chemicals to monitor (DPR)
- reviewing candidate list of chemicals (TAG, labs)
- finalizing list of chemicals to monitor (DPR)
- writing scopes of work for contractors (DPR)
- reviewing scopes of work (TAG)
- writing final scopes of work (USEPA approval)
- writing draft monitoring protocol (DPR)
- reviewing draft monitoring protocol (TAG)
- writing final monitoring protocol (USEPA approval)
- responding to monitoring protocol comments (DPR)
- negotiating and establishing contracts (DPR)
- procuring supplies (DPR, contractors)
- establishing monitoring sites (DPR, contractor)

The method development component normally takes two to six months to complete and includes the following:

- researching appropriate sampling and analytical methods (DPR, contractor)
- testing the precision of the methods (contractor)
- testing the accuracy of the methods (contractor)
- testing the sensitivity (detection limit) of the methods (contractor)
- testing the selectivity methods (contractor)
- testing the trapping efficiency of the sampling methods (contractor)

- testing the storage stability of the analytes (contractor)
- writing draft standard operating procedures (contractor)
- reviewing standard operating procedures (TAG)
- writing final standard operating procedures (contractor)
- validating methods with quality control laboratory (contractor)
- quality assurance audit (QA team)

This component has been largely completed for the fumigants and phase one chemicals.

The data collection component normally takes the amount of time samples are collected, plus one to three months and includes the following:

- sample collection (contractor)
- laboratory analysis (contractor)
- meteorological data compilation (DPR, Santa Barbara APCD)
- pesticide use data compilation (DPR, Santa Barbara Ag Dept)
- quality assurance audit (QA team)

The report preparation component normally takes 6 to 12 months to complete and includes the following:

- compiling sampling and laboratory data (DPR)
- summarizing the monitoring data (DPR)
- reviewing preliminary monitoring data (TAG)
- analyzing monitoring data, meteorological data, pesticide use data (DPR)
- comparing data to other research (DPR)
- evaluating quality assurance data (DPR)
- writing quality assurance report (QA team)
- evaluating possible health effects (DPR)
- writing draft monitoring report (DPR)
- reviewing draft monitoring report (LIWG)
- writing final monitoring report (DPR)
- responding to monitoring report comments (DPR)

PROS AND CONS OF THE OPTIONS

If adequately funded, all options will achieve the objectives. Therefore, most of the

pros and cons pertain to partial funding for each of the options.

1. Extend Phase One

Pro
1. Monitoring occurs during peak use season for some chemicals.
2. Possible to develop model to estimate concentrations for other pesticides.
3. Monitoring can be completed using $100,000 available from USEPA.

Con
1. No monitoring for other pesticides.
2. Can only monitor for six weeks.
3. Peak season already monitored for some chemicals.
4. More expensive in the long run.

2. Monitor Fumigants or Phase Two

Pro
1. Fumigant monitoring completed using $100,000 available from USEPA.
2. Fumigants will probably have the highest hazard indices.
3. Less expensive in the long run.

Con
1. Only monitors a few chemicals without additional funding.
2. Most monitoring delayed one year.
3. May only have a few fumigant applications due to recent restrictions.

ESTIMATED COSTS

The options described above include three elements: phase one extension, fumigants, and phase two. Costs for each element are summarized below. Option 1 includes all three elements, with a total cost of $546,380. Option 2 includes two elements, with a total cost of $479,800. With either option, U.S. Environmental Protection Agency funding would offset $100,000 of the costs.

Phase One Extension - $66,580

3+1 sites X 6 weeks X 4 samples/wk X $400	= $38,400
10% quality control	= 3,840
10% second lab	= 3,840

field sampling	= 7,500
mini-Sodar meteorological station	= 13,000

Fumigants - approximately $98,000

4+1 sites X 3 days X 2 samples/day X 9 applications X $250	= $60,000
10% quality control	= 6,000
10% second lab	= 6,000
field sampling	= 10,000
mini-Sodar meteorological station	= 16,000

Phase Two - approximately $381,800

3+1 sites X 12 weeks X 3 samples/wk X $1500	= $216,000
validation (e.g., storage stability, trapping efficiency)	= 75,000
10% quality control	= 21,600
10% second lab	= 21,600
identification of unknown chemicals	= 21,600
field sampling	= 15,000
mini-Sodar meteorological station	= 20,000

RECOMMENDATIONS

The technical advisory group does not have unanimous agreement on which option to recommend. However, we are gathering additional information and plan to meet just prior to the March 19 meeting. We may have a unanimous recommendation at that time.

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Options for Lompoc Pesticide Air Monitoring
3/11/99